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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/643,981	08/20/2003	Kazuhiko Amakawa	396,43041X00	4986
20457	7590	09/17/2004	EXAMINER	
ANTONELLI, TERRY, STOUT & KRAUS, LLP 1300 NORTH SEVENTEENTH STREET SUITE 1800 ARLINGTON, VA 22209-9889			DAVIS, BRIAN J	
			ART UNIT	PAPER NUMBER
			1621	

DATE MAILED: 09/17/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

## Application No.

10/643,981

## Applicant(s)

AMAKAWA, KAZUHIKO

## Examiner

Brian J. Davis

## Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-16 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☒ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 3/10/04.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_.

## **DETAILED ACTION**

### ***Oath/Declaration***

The oath or declaration is defective. A new oath or declaration in compliance with 37 CFR 1.67(a) identifying this application by application number and filing date is required. See MPEP §§ 602.01 and 602.02.

The oath or declaration is defective because: The full name of the second inventor (family name and at least one given name together with any initial) has not been set forth, only a signature is present.

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 1-4 and 7-14 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for Ni-containing hydrogenation catalysts, does not reasonably provide enablement for the *universe* of catalysts. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the invention commensurate in scope with these claims.

With regard to rejections under 35 USC 112, first paragraph, the following factors are considered (*In re Wands* 8 USPQ 2d 1400, 1404 (CAFC 1988)): a) Breadth of claims; b) Nature of invention; c) State of the prior art; d) Level of

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ordinary skill in the art; e) Level of predictability in the art; f) Amount of direction and guidance provided by the inventor; g) Working examples and; h) Level of experimentation needed to make or use the invention based on the content of the disclosure.

a)The claims are quite broad with respect to the catalyst: the universe of catalysts.

b,c)The nature of the invention is determined in part by the state of the prior art. The key to the instant invention is the catalyst regeneration step. The prior art in general teaches regeneration processes of Ni-containing hydrogenation catalysts under conditions unique to each catalyst and hydrogenation reaction catalyzed - as a random walk through the catalytic arts confirms, see for instance: FR 2773086 (CAPLUS abstract); EP 61042 (CAPLUS abstract); AU 454487 (CAPLUS abstract); GB 797111 (CAPLUS abstract): and GB 644239 (CAPLUS abstract).

d)The level of skill in the art is considered to be relatively high.

e)The level of predictability in the art is considered to be relatively low.

Even under the best of circumstances, and several hundred years after Lavoisier laid the foundations of its modern practice, chemistry remains an experimental science. Practitioners in the catalytic arts are well aware of the often exquisitely sensitive nature of their enterprise, where even small changes in catalyst composition, form, reaction conditions, etc. may give rise to unpredictably different outcomes.

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f,g)The amount of direction provided by the inventor is considered to be determined by the specification and the working examples. Applicant utilizes Ni-containing catalysts in all examples.

h)It is not possible to make and use the instant invention without an undue level of experimentation. It simply beggars belief that applicant's specific, detailed regeneration process where, for instance, even temperature rise must be closely controlled, would be applicable to the *universe* of catalysts. An undue level of experimentation would be necessary – i.e. each and every catalyst – to determine if that catalyst would be useful in applicant's regeneration process. And case law is clear on this point: the specification must teach how to make and use the invention, not how to figure out for oneself how to make and use the invention. *In re Gardner*, 166 USPQ 138 (CCPA 1970).

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1, 2, 8, 9, 11 and 12 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The exact meaning of the phrase "...while controlling [or *to control*] a temperature rise speed of the catalyst to 40°C/min or less..." is unclear. The examiner respectfully suggests a slight modification, something along the lines of: "...while maintaining [or *to maintain*] the rise in catalyst temperature at 40°C/min or

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less...". Case law is clear that while an applicant may be his own lexicographer, applicant may not distort art-recognized terms. *Ex parte Klager*, 132 USPQ 203 (POBA 1959). In the instant claims, applicant is not so much distorting terms, as adding them unnecessarily (*speed*), which combined with non-standard English grammar, render the claims unclear and thus indefinite.

Claims 3 and 7 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The exact meaning of the phrase "...while controlling an average treating temperature to 180°C or lower..." is unclear. As above, and for similar reasons, the examiner respectfully suggests a slight modification, something along the lines of: "...while maintaining an average temperature of 180°C or less...".

Claims 10 and 13 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The phrase "...on a basis of a normal state..." is unclear.

The remaining claims are also rejected under 35 USC 112, second paragraph, as claims which depend from indefinite claims are also indefinite. *Ex parte Cordova*, 10 USPQ 2d 1949, 1952 (PTO Bd. App. 1989).

***Allowable Subject Matter***

The subject matter of claims 5, 6, 15 and 16 would be allowable one the above 112 rejections have been overcome. The following is a statement by the examiner of the reasons for the indication of allowable subject matter:

The closest prior art appears to be US 4,482,741 which teaches a catalyst regeneration step in the synthesis of xylenediamines in the liquid phase from the corresponding phthalonitriles using Co catalysts (abstract; column 7 example IV). The instant process is neither taught nor suggested by the prior art. Nor would it have been obvious to one of ordinary skill in the art at the time of the invention to modify the process of the prior art in order to arrive at that of the instant invention. There is no motivation to do so.

***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure: *Shanghai Huagong* (2000), 25(17), p. 12-15 (CAPLUS abstract) and *Jingxi Huagong* (2000), 17(9), p. 544-546, 551 (CAPLUS abstract) are cited to show related hydrogenations and regenerations.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brian J. Davis whose telephone number is 571-272-0638. The examiner can normally be reached on 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Johann Richter can be reached on 571-272-0646. The

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fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
**BRIAN DAVIS**  
**PRIMARY EXAMINER**  
Brian J. Davis  
September 15, 2004